

**AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. APP. NO. 10/773,456**

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A magnetic field sensor comprising:

 a soft magnetic core formed in a semiconductor substrate to construct a closed-magnetic circuit;

 a magnetic field sensing coil formed by a metal film in a structure of winding magnetic core; and

 a drive line for exciting the soft magnetic core by directly applying an electric current thereto.
2. (original): The magnetic field sensor of claim 1, wherein the drive line is formed in a rectangular angle to the magnetic field sensing coil.
3. (original): The magnetic field sensor of claim 2, wherein the drive line is connected to both ends of the soft magnetic core in a length direction.
4. (original): The magnetic field sensor of claim 3, wherein the length direction of the soft magnetic core is in a magnetic field sensing axis.
5. (original): The magnetic field sensor of claim 1, wherein the magnetic field sensing coil is wound in a solenoid pattern.
- 6-12 (canceled).